Name _____ Class _____ Date _____

SECTION 1-4 REVIEW

TOOLS AND TECHNIQUES

VOCABULARY REVIEW **Circle the term that does not belong in each of the following groups, and briefly explain why it does not belong.**

1. compound light, transmission electron, light electron, scanning electron _____

_____

2. base unit, stage, nosepiece, objective lens _____

_____

3. magnification, power of magnification, resolution, mass density _____

_____

4. second, minute, meter, kilogram _____

_____

5. meter, square meter, cubic meter, kilogram per cubic meter _____

_____

MULTIPLE CHOICE **Write the correct letter in the blank.**

_____ **1.** The ability of a microscope to show details clearly is called

a. enlargement. **b.** magnification. **c.** reduction. **d.** resolution.

_____ **2.** One limitation of the scanning electron microscope is that it cannot be used to

a. examine specimens smaller than cells.
b. view living specimens.
c. produce an enlarged image of a specimen.
d. produce an image of the surface of a specimen.

_____ **3.** A microscope with a 10× ocular lens and a 25× objective lens has a total power of magnification equal to

a. 2.5×. **b.** 35×. **c.** 250×. **d.** 2,500×.

_____ **4.** The SI base unit for time is the

a. second. **b.** minute. **c.** hour. **d.** day.

_____ **5.** The SI prefix that represents 1,000 times the base unit is

a. deci. **b.** centi. **c.** kilo. **d.** micro.

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SHORT ANSWER Answer the questions in the space provided.

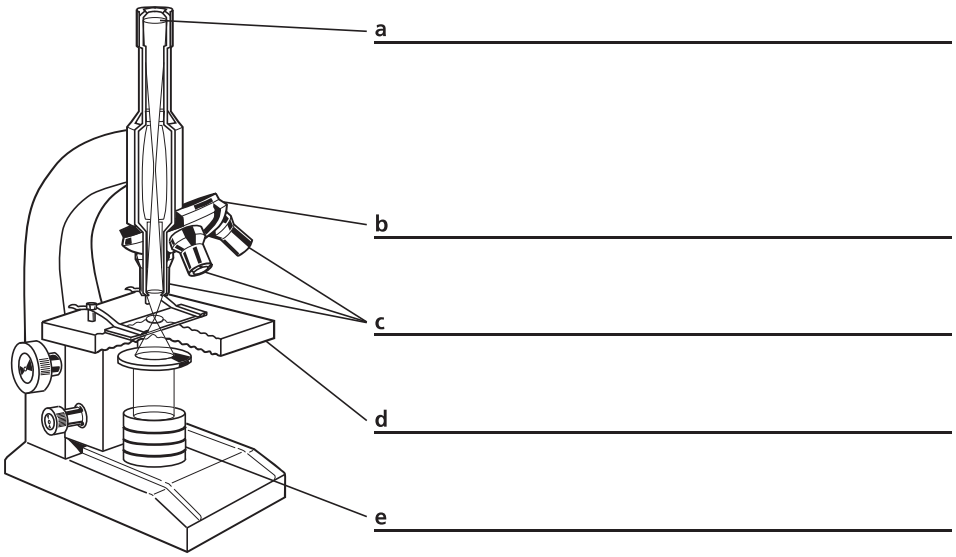
1. Arrange the following parts in the order that matches the light path through a light microscope: specimen, ocular lens, objective lens, light source. _____

2. What are the maximum magnifications of the LM, TEM, and SEM? _____

3. Write the abbreviation for each of the following units: meter, kilometer, centimeter, millimeter, micrometer. What is the mathematical relationship between these units? _____

4. **Critical Thinking** A group of scientists want to determine whether the bacteria they are studying have viruses inside them. Which type of microscope should they use? Explain your answer.

STRUCTURES AND FUNCTIONS Label each part of the figure in the spaces provided.



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